

ABSTRACT:

An electric field proximity detector capable of detecting partially conductive or conductive objects regardless of their impedance to circuit ground. The detector has a sensor with a transmitting electrode, a receiving electrode, and at least one circuit ground electrode preferably arranged in a bulls-eye configuration with the ground electrode between the transmitter and receiver electrodes. With appropriate sizing, upon the approach of an object, a signal received by the receiving electrode decreases, at least until the object is within a threshold distance of the sensor. The size and positioning of the ground electrode further reduces the effects of stray capacitance.